

REMARKS

Currently claims 1-37 are pending.

The Examiner objected to claims 2-7, 15-37 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant gratefully acknowledges the Examiner's indication of allowable subject matter. In response, Applicant has rewritten claim 2 in independent form including all of the limitations of the original base claim 1 and therefore Applicant respectfully maintains that claim 2 is in condition for allowance. Since claims 3-7, 15-18, 36 and 37 depend from claim 2, Applicant contends that claims 3-7, 15-18, 36 and 37 are likewise in condition for allowance.

The Examiner rejected claims 1 and 8 under 35 U.S.C. § 102(e) as being anticipated by Desai, United States Patent No. 6,461,296.

The Examiner rejected claims 9-14 under 35 U.S.C. § 103(a) as being unpatentable over Desai, United States Patent No. 6,461,296.

Applicant respectfully traverses the § 102 and § 103 rejections with the following arguments.

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35 U.S.C. §102

Claims 1 and 8 are rejected under 35 U.S.C. §102(e) as being anticipated by Desai, United States Patent No. 6,461,296 (hereinafter '296).

The Examiner alleges that "Desai discloses a microinjector and a cannula with a single passageway, a blunt closed tip and a pair of side holes that are diametrically opposed and slightly offset. See figure 19 A. See figures 10-13 for the embodiments of the cannula tip with side holes".

In response, Applicant respectfully contends that Desai does not anticipate claim 1 for at least the following two reasons.

A first reason why Applicant respectfully contends that Desai does not anticipate claim 1 is because Desai does not teach each and every feature of claim 1. For example, Desai does not teach the features of "a cannula (2) adapted for connection to a distal end of the syringe barrel (7), said cannula (2) having a single passageway with an open upper end and a lower end defining a **blunt** closed tip (14) and having a **pair** of side port holes (15A),(15B) that are diametrically opposed and slightly offset to each other near the vicinity of the cannula tip (14)" (emphasis added). The Examiner alleges that Desai teaches "a blunt closed tip and a pair of side holes that are diametrically opposed and slightly offset. See figure 19 A. See figures 10-13 for the embodiments of the cannula tip with side holes". Applicant contends that Desai does not teach a **blunt** closed tip as taught by Applicant's claim 1. In contrast, Desai describes in FIG. 19A and col. 10, lines 10-48, a combination of a needle "having a tip with a closed **point**". This description is notably different from the cannula specified in Applicant's claim 1, which is defined as having an "end defining a **blunt** closed tip". Additionally, Applicant contends that the

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needle disclosed in FIG. 19A of Desai '296 also does not include "a **pair** of side holes that are diametrically opposed and slightly offset", but rather includes only a **single** side hole. Applicant further contends that FIGS. 10-13 of Desai '296 also fail to teach a cannula with "a **blunt** closed tip" and "a **pair** of side holes that are diametrically opposed and slightly offset". These drawings (i.e., FIGS. 10-13) instead identify several variants of a needle for use with the injector of Desai, each of which including a **sharp** tip with an open end, and a plurality of randomly spaced and distributed port holes. The Examiner's attention is respectfully drawn to the disadvantages noted in the present application with respect to Desai. As discussed from description page 4, line 13 through to description page 5, line 10, the inclusion of a **sharp** open end at the extreme distal end of a neural transplantation delivery cannula is particularly disadvantageous. The insertion of a sharp-ended, or "pointed", cannula into brain tissue is potentially harmful to the brain, and tends to cause a greater level of trauma as compared to the blunt-ended cannula of claim 1. Moreover, an opening at the tip of a delivery cannula has the potential to become obstructed in the course of performing multiple insertions within brain tissue, and thereby eventually restricts ejection of cell/tissue suspensions. As further mentioned in the description of the present application, on page 10, lines 8 to 29, the tip of the cannula of claim 1 is closed and **blunt** in order to minimize trauma to the neural tissue during insertion. The pair of diametrically opposed and slightly offset port holes specified in claim 1 are also provided near the tip of the cannula to allow egress of cells during aspiration of the syringe, as well as to further minimize brain trauma and to maximize cell graft deposits. In this respect, the use of a pair of holes is preferred since a **larger number of port holes** (see Dasai FIGS. 10-13) would tend to increase the risk of trauma and possible damage to the neural tissue. The positioning of the port holes on the opposite sides of

the cannula in an offset arrangement is also important for obtaining adequate delivery and distribution of cell graft deposits. Having regard to the above comments, the applicant firmly asserts that Desai '296 does not teach "a cannula with a single passageway, a **blunt** closed tip and a **pair** of side holes that are diametrically opposed and slightly offset", as defined in claim 1. Instead, Desai '296 disclosed variations of a **sharp**, or pointed-end cannula, with each of figures 10 to 13 illustrating an open-ended cannula having a plurality of randomly positioned side holes. As mentioned above, such a cannula would be extremely harmful to brain tissue, and thus could not be used in combination with the microinjector of claim 1. While figure 19A of Desai '296 discloses a closed-point cannula with a single side-hole, it still does not anticipate the cannula of present claim 1 since it is not **blunt**-ended, nor does it include a "**pair** of side holes that are diametrically opposed and slightly offset". Therefore, Applicant contend that Desai does not anticipate claim 1 and that claim 1 is in condition for allowance.

A second reason why Applicant respectfully contends that Desai does not anticipate claim 1 is because Desai '296 does not have a priority basis which is earlier than the September 9, 1999 priority date of the present invention. The Desai '296 reference was filed on February 22, 2000 and claims priority under 35 U.S.C. §120 as a continuation-in-part of U.S. Patent No. 6,231,591, hereinafter Desai '591, which was filed on June 26, 1998. In contrast, the present application was filed on March 11, 2002 and claims a priority under 35 U.S.C. §365 based on Canadian application 2,282,007 and PCT/CA00/00614 having an effective filing date of September 9, 1999. In order for Desai '296 to be used as a reference with an effective filing date of June 26, 1998, a microinjector and cannula having a single passageway, **blunt closed** tip and **pair** of diametrically opposed and slightly offset side holes, as referred to by the Examiner, must have a

basis in the teachings of Desai '591. Figures 10 to 13 of Desai '296 are included in Desai '591 as figures 34, 35, 36A and 36B. However, figure 19A, as well as figures 19B to 21 of Desai '296 are not included in Desai '591, nor is there a description corresponding to that provided in column 10, lines 10 to 48 of Desai '296, which refers to a needle "having a tip with a closed point". For this reason, the applicant firmly submits that Figure 19A and the corresponding teachings of Desai '296 do not have a priority basis for a "closed-point cannula" which is earlier than the September 9, 1999 priority date of the present case. Accordingly, the "closed-point" feature described in Desai '296 is new material not supported by the teachings of Desai '591, and therefore cannot be used by the Examiner in asserting that present claim 1 is anticipated by Desai '296. In view of the above argument, Applicant firmly contends that claim 1 is novel and not anticipated by Desai '296, and on the basis of their dependency thereon. This position is supported by the actions of the Canadian Patent Office, which has allowed an independent claim of substantially equivalent scope to present claim 1 to issue in Canadian Patent No. 2,282,007. Further support for the novelty and inventiveness of present claim 1 may also be found in the December 28, 2001 International Preliminary Examination Report for the underlying international application, in which the Authorized Officer acknowledged that claim 1 as amended in the international phase is novel and possess an inventive step.

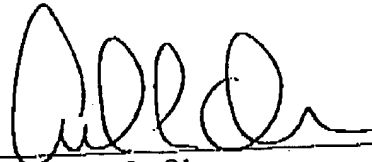
Based on the preceding arguments, Applicant respectfully maintains that Desai does not anticipate claim 1, and that claim 1 is in condition for allowance. Since claims 8-14 and 19-34, depend from claim 1, Applicant contends that claims 8-14 and 19-34 are likewise in condition for allowance.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below.

No additional fee is required for this amendment. However, the Commissioner is hereby authorized to charge payment of any fees due with this communication or credit any overpayment to Deposit Account No. 19-0513.

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